2015 RESEARCH AND TECHNOLOGY REPORT NASA
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From General Relativity to A Simple-Harmonically Oscillating Universe, and Vice-Versa: A Review

CONVENTIONAL and ADVANCED
PROPULSION SYSTEMS

These are the systems you have most likely heard of and include,

ROCKET ENGINES
AIR-BREATHING AND RECOVERABLE BOOSTERS
THERMONUCLEAR ROCKETS
SOLAR, ION, LASER, PROTON and PLASMA PROPULSION

Soaring Through Space: Spaceplane Enters Phase II XS-1

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NASA - Aerobrake Model Forces end Flow Fields 1992

020 LaRC 92-1-02.03-5630D NAS01-19874
Measurement of Aerobrake Model Forces and Flow Fields
Complere, Inc. P.O. Box 1697 Palo Alto, CA 94302 F. Kevin Owen (415-321-5630)
Aero-assisted space transfer vehicles have three primary components: the aerobrake, the payload, and the propulsion unit. Flow field interaction with and between these elements can have significant effects on vehicle stability and allowable payload size and shape. Of particular importance is the interaction of the near wake with the payload compartment. In consequence, precise determination of wake structure and closure is a critical issue for aerobrake design. The heating and aerodynamic forces that may result from the interactions between the payload and near wake are not well understood. Additionally, available experimental data is not sufficient to

validate CFD models and may be contaminated to unknown degrees by sting interference or model wire suspension effects. This project's goal will be to develop innovative magnetic model suspension and flow field instrumentation to support code validation efforts.
Potential Commercial Applications: Improved magnetic suspension balance and flow field measurement systems for rarefied flows will contribute to the national space program by providing data that will help establish a sound technological foundation for the cost-effective design of future aero-assisted space transfer vehicles.

Fifth International Symposium on Magnetic Suspension Technology

Status report, June 1988 - April 1992 by NASA Technical Reports Server (NTRS) Publication date 1992-04-01 Topics NASA Technical Reports Server (NTRS), AEROSPACE ENGINEERING, EDUCATION, INTERPLANETARY SPACECRAFT, MARS (PLANET), MISSION PLANNING, MOON, SPACE EXPLORATION, SPACE PROGRAMS, SPACE TRANSPORTATION SYSTEM FLIGHTS, UNIVERSITIES, AEROBRAKING, AERODYNAMIC HEATING, AERODYNAMICS, EJECTORS, FABRICATION, HYPERSONICS, LECTURES, STUDENTS, WEAVING, Collection NASA_NTRS_Archive;

NASA Technical Report 2015

International Journal of ISRA Advanced Engineering Research and Science

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A Review

Faster than Light:

Again on the Lorentz Transformations

(Testing quantised inertia on the emdrive)

Is the EM-Drive a Closed System?
NOV 2017

“In nonrelativistic classical mechanics, a closed system is a physical system that doesn't exchange any matter with its surroundings, and isn't subject to any force whose source is external to the system. A closed system in classical mechanics would be considered an isolated system in thermodynamics.”

Conclusion More than eight tests in four independent labs have shown that when microwaves resonate within an asymmetric cavity an anomalous thrust is generated pushing the cavity towards its narrow end. This force can be predicted fairly well by using a new model for inertia

(MiHsC) which assumes that the inertial mass of the photons is caused by Unruh radiation whose wavelengths have to fit exactly inside the cavity so that the photons' inertial mass is greater at the wide end. To conserve momentum a new force appears to to push the cavity towards its narrow end, and the predicted force is similar to the thrust observed. MiHsC suggests that the thrust can be increased by increasing the input power, the Q factor, or using a dielectric. As a direct test MiHsC predicts that the thrust can be reversed by making the length L equal to the width of the narrow end.

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Pic

Pic Aero

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